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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/648,420	08/26/2003	Charles C. Anderson	83879D-W	3994

7590

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EXAMINER

ZACHARIA, RAMSEY E

ART UNIT

PAPER NUMBER

1773

DATE MAILED: 01/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/648,420	Applicant(s) ANDERSON ET AL.	
	Examiner Ramsey Zacharia	Art Unit 1773	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 November 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8, 10-35 and 41 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 10-35 and 41 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 102

2. Claims 1-8, 10-23, 25, 28, 29, 31-35, and 41 are rejected under 35 U.S.C. 102(e) as being anticipated by Lamotte et al. (US 2004/0048048 A1).

Lamotte et al. teach a material having a conductive pattern comprising a substrate and a conductive element formed of a conductive polymer and a polyanion and contiguous with a patterned surface of at least two types of surface elements wherein the conductive element in contact with one of the surface elements results in a conductivity that is lower by a factor of 10 (paragraph 0031 and claim 1). The surface elements may be formed from dispersions containing 20 wt% solids, e.g. LATEX02 from the Table in paragraph 0073. The conductive polymer is a polythiophene that reads on the material of Formula I in instant claim 20 (paragraph 0060). The polyanion may be a polyacrylic acid, polymethacrylic acid, polyvinylsulfonic acid, or polystyrenesulfonic acid (paragraph 0066). A binder, such as polyvinyl alcohol or a latex comprising polymers of methacrylates, may also be used (paragraph 0074). The patterned surface elements may be applied by conventional printing techniques such as screen printing, off-set printing, and ink jet printing (paragraph 0034). The conductivity of the conductive element may lowered to less than $10^6 \Omega$ by a conductivity enhancement process (paragraph 0040). The conductivity of the conductive element is lower than $10^4 \Omega$ (paragraph 0051), in the

embodiment of Example 3, the conductivity is as low as $1.0 \times 10^3 \Omega$ (Table 6), i.e. a factor of 1000 below $1 \times 10^6 \Omega$. The conductivity enhancement process comprises contacting the conductive polymer with a liquid, such as N-methyl-pyrrolidone or diethylene glycol, subsequent to the preparation of the conductive polymer layer (paragraph 0026). The conductive polymer layer is preferably applied to the substrate at a coating weight of 100 to 500 mg/m² (paragraph 0105). The substrate may be silicon, glass, paper, or a polymer, such as polyesters, polycarbonate, polystyrene, polyolefin, or cellulose triacetate (paragraph 0056).

Regarding claims 15 and 16, while Lamotte et al. do not teach a concentration of the conductivity enhancing agent in the printing solution of 0.5-5.0 wt%, the concentration of the agent in the printing solution is not a product limitation. The amount of agent present in the finished element is a function of both the concentration in the printing solution and the amount of printing solution applied. Therefore, absent a recitation of the amount of printing solution applied, the concentration of agent in the solution is not physical limitation. As such, the product of Lamotte et al. reads on the product of claims 15 and 16.

Claim Rejections - 35 USC § 103

3. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lamotte et al. (US 2004/0048048 A1).

Lamotte et al. teach all the limitations of claim 24, as outlined above, except for the amount of binder used. However the amount of binder used not only impacts the integrity of the resulting film but also dilutes the amount of conductive polymer in the layer. Therefore, the

Art Unit: 1773

amount of binder is a results effective variable that affects the integrity and conductivity of the resulting layer.

As such, it would have been obvious to one having ordinary skill in the art at the time the invention was made to optimize the amount of binder used, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2nd 272, 205 USPQ 215 (CCPA 1980).

4. Claims 26, 27, and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lamotte et al. (US 2004/0048048 A1) in view of Lelantal et al. (US 2003/0008247 A1).

Lamotte et al. teach all the limitations of claims 26, 27, and 30, as outlined above, except for the use of materials as recited in these claims for the binder. However, Lamotte et al. do teach the use of polyvinyl alcohol and (meth)acrylic (co)polymers as binders (see paragraph 0074).

Lelantal et al. discloses that that polyvinyl alcohol, acrylate polymers, gelatin, cellulose derivatives such as carboxymethyl cellulose, an aqueous dispersion of polyurethane or polyesterionomers are known in the art as functionally equivalent binders for forming electrically conductive polythiophene layers. Therefore, because these materials were art-recognized equivalents at the time the invention was made, one of ordinary skill in the art would have found it obvious to substitute gelatin, cellulose derivatives such as carboxymethyl cellulose, or an aqueous dispersion of polyurethane or polyesterionomers for polyvinyl alcohol or an acrylic polymer as the binder material.

Response to Arguments

5. Applicant's arguments filed 22 November 2005 have been fully considered but they are not persuasive.

The applicants argue that Lamotte et al. does not disclose the formation of a continuous layer that is then contacted with a conductivity enhancing agent to create a pattern having lower resistivity.

This is not persuasive because it is noted that the features upon which applicant relies (e.g., a continuous layer to which a pattern of conductivity enhancing agent is applied) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

Art Unit: 1773


however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ramsey Zacharia whose telephone number is (571) 272-1518.

The examiner can normally be reached on Monday through Friday from 9 to 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney, can be reached at (571) 272-1284. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Ramsey Zacharia
Primary Examiner
Tech Center 1700